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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BERCH, MARK L

ART UNIT

PAPER NUMBER

1624

DATE MAILED: 10/01/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/006,579

Applicant(s)

COLBERG ET AL.

Examiner

Mark L. Berch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/18/02.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The restriction requirement is withdrawn

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-31 are rejected under 35 U.S.C. 112, paragraphs 1 and 2, as the claimed invention is not described, or is not described in such full, clear, and exact terms as to enable any person skilled in the art to make and use the same, and/or failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. Specifically:

The claim 1 process, as written, will not produce the product as specified, and hence the claim is not correct (paragraph 2). Alternatively, the specification does not teach how to do this process (paragraph 1). The problem here is the XH in the final product of Formula 1. Where does this come from? No reactant has the variable X in it. The last step is the treatment with an acid, which claim 3 specifies can be  $\text{PCl}_5$ . Example 1 exactly corresponds to the claim 1 process language, including the  $\text{PCl}_5$  treatment at page 27, lines 26-27. The product, however, does not correspond to Formula 1 because the HX is not present. No other example gives the Formula 1 product either. The Bateson et al. reference cited below, doing the N-deacylation on a virtually identical

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compound (differing only in the nature of the ester group at a remote point) does not directly obtain the salt. The specification contain no discussion of where the X comes from. Either the structure of Formula 1 is not correct, or something has been left out.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7-15, 25, 28-39, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateson et al.

The claim 1 process is embraced by the teaching of the reference at column 11, line 41-column 12, line 19. Converting the product to a salt appears as step v) at line 65, making the salts referred to at column 2, line 20. The p-nitrobenzyl choice for R3 (for claim 28) appears at column 3, line 17, and allyl (for claim 29) is at line 18 and benzyl (for claim 30) is at line 16. The actual examples use the p-methoxybenzyl ester (e.g. 6, 13-15) or the butyl (example 1). The equivalence of the groups is clearly taught at column 3, lines 16-18, where all 5 groups are mentioned. Applicants need to show that unexpected effects arise from the use of one protecting group rather than another. Similarly, the p-methoxybenzyl and butyl esters of the 7-amino compounds of examples 1, 3, 6, 13-15 render claim 32 obvious. These fall within Formula II, differing only in the carboxyl protecting group, which is obvious for reasons set forth above, and being in the salt form, a variation taught by column 9, line 29. In the same manner, the

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phenylacetamido intermediate of claim 33 is rendered obvious by the intermediates at example 6, step d; example 13, step e; examples 14-15, step d. This differs solely in the nature of the carboxyl protecting group.

Claim 2's toluene is seen in e.g. example 1, step e; example 3, etc. Claim 3's use of  $\text{PCl}_5$  is seen in e.g. example 1, step f; example 15, step e, etc.

Claims 4 and 7 deal with the process of preparing the starting material IIIa, converting the alcohol IIIc to the halide IIIB, and reacting that with the phosphine. That appears in the reference at column 12, lines 22-48. This is exemplified in example 1 and other examples. Claim 8's thionyl chloride appears at column 18, line 38, and claim 9's lutidine appears at line 40. Claim 25's THF appears at column 12, line 41. Claim 34 is thus obvious, as such compounds are made in Example 1, step c and d; ex 3, steps d and e, example 6, steps b and c, etc. This compound has a different protecting group present, but that is obvious for reasons set forth above in the discussion of the R3 equivalences at column 3, lines 16-18, of methoxybenzyl with nitrobenzyl and allyl.

The claim 10-12 process is set forth at column 13, lines 27-50, including the use of acetone as solvent.. See examples 6, step b. The thiol intermediate at column 25, lines 29-31 renders claim 35 obvious. This compound has a different protecting group present, but that is obvious for reasons set forth above in the discussion of the R3 equivalences at column 3, lines 16-18, of methoxybenzyl with nitrobenzyl and allyl. The compound is also made in examples 14-15, step b, although it is not named there, and is made in example 27, step e.

Claims 13-15 deal with the method of preparing the thiol by cleaving the fused thiazoline compound VIa. The reference states that the thiol can be made "according to

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known methods” and cites specifically the Narisada method, at column 14, lines 58-62. See example 6, step b and examples 14, 15, 27, 29 etc step b. Similarly, the product of example 6, step b) renders obvious the compounds of claims 36-39. These compounds have a different protecting group present, but that is obvious for reasons set forth above in the discussion of the R3 equivalences at column 3, lines 16-18, of methoxybenzyl with nitrobenzyl and allyl.

### *Specification*

The abstract is objected to. It states that there is a process, but gives virtually no indication of what that process consists of.

The papers filed on 3/28/2002 i.e. the 3/11/02 declaration have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

COPY OF PAPERS  
ORIGINALLY FILED

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If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do not call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will not be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within THREE MONTHS of the mail date of this Office action, the Office will add the original mailroom


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date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Berch whose telephone number is 703-308-4718. The examiner can normally be reached on M-F 7:15 - 3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached on 308-4716. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 708-308-1235.

  
Mark L. Berch  
Primary Examiner  
Art Unit 1624

September 30, 2002